Claims

1. An integrated door lock handle and trim assembly having a retractable spindle for operating a mortise door lock comprising:

a door lock handle having a support shoulder and external threads at the end of the handle and an axial blind opening in the handle for accommodating a spring and a spindle;

a cover having a base and a door facing outer lip around the base periphery and an internal threaded through opening in the base which opening is sized to allow the cover to rotate freely on the handle and the base rests against the shoulder;

a mounting plate sized to fit within the outer lip and having a through opening with a lip having external threads which are to be threaded with the internal threads of the cover;

a cap nut having a through opening with internal threads which are to be threaded with the external threads of the handle forming an integral assembly of the handle, cover, mounting plate and cap nut;

an elongated spring disposed within the axial opening of the handle having a front end and a rear end press-fit into and resting against the end of the blind opening; and

an elongated spindle sized to extend through the cap nut opening, mounting plate opening and the axial opening in the handle and having a front end shaped to engage and operate the door lock and a rear end which is pressing against the front end of the spring;

whereas the spindle can be retracted within the axial opening decreasing the effective length of the spindle enabling the assembly to be used for doors of varying thicknesses.

2. The trim assembly of claim 1 further comprising elongated mounting posts having an enlarged end held in the assembly with the free ends of the posts extending axially through openings in the mounting plate.

3. The trim assembly of claim 2 further comprising a spring disposed between the mounting plate and the base of the cover.

4. The trim assembly of claim 3 wherein the cap nut has a star shaped opening which engages the spindle to prevent the spindle from turning.

5. The trim assembly of claim 4 wherein the spindle is rectangular.

6. The trim assembly of claim 5 wherein the rear end of the spindle has an axial opening to accommodate an anchor to connect the spindle and anchor together.

7. The trim assembly of claim 6 wherein the rear end of the elongated spring is conical so that when compressed the spring collapses to a greater extend than a conventional spring.

8. The trim assembly of claim 1 which is pre-assembled.

9. The trim assembly of claim 1 wherein the rear end of the spindle is shaped to engage the front end of the spring.

10. The trim assembly of claim 1 wherein the cover is an escutcheon.

11. An integrated door lock handle and trim assembly having a retractable spindle for operating a mortise door lock is provided comprising:

a door lock handle having a support shoulder formed by an elongated extension of smaller size at the end facing the door with the handle having external threads at the end of the extension and an axial blind opening in the extension and handle for accommodating a spring and a spindle;

a cover having a base and a door facing outer lip around the base periphery and an internal threaded through opening in the base which opening is sized to allow the cover to rotate freely on the extension and the base rests against the shoulder;

a mounting plate sized to fit within the outer lip and having a through opening with a lip having external threads which are to be threaded with the internal threads of the cover;

a cap nut having a through opening with internal threads which are to be threaded with the external threads of the handle forming an integral assembly of the handle, cover, mounting plate and cap nut;

an elongated spring disposed within the axial opening of the extension and handle having a front end and a rear end press-fit into and resting against the end of the blind opening; and

an elongated spindle sized to extend through the cap nut opening, mounting plate opening and the axial opening in the handle and having a front end shaped to engage and operate the door lock and a rear end which is pressing against the front end of the spring;

whereas the spindle can be retracted within the axial opening decreasing the effective length of the spindle enabling the assembly to be used for doors of varying thicknesses.

12. The trim assembly of claim 11 further comprising elongated mounting posts having an enlarged end held in the assembly with the free ends of the posts extending axially through openings in the mounting plate.

13. The trim assembly of claim 12 further comprising a disc spring disposed between the mounting plate and enlarged pin end and the base of the cover.

14. The trim assembly of claim 13 wherein the cap nut has a star shaped opening which edges of the opening engages the spindle to prevent the spindle from turning.

15. The trim assembly of claim 14 wherein the spindle is rectangular.

16. The trim assembly of claim 15 wherein the rear end of the spindle has an axial opening to accommodate an anchor to connect the spindle and anchor together.

17. The trim assembly of claim 16 wherein the rear end of the elongated spring is conical so that when compressed the spring collapses to a greater extend than a conventional spring.

18. The trim assembly of claim 11 which is pre-assembled.

19. The trim assembly of claim 11 wherein the rear end of the spindle is shaped to engage the front end of the spring.

20. The trim assembly of claim 11 wherein the cover is an escutcheon.